Methodological Compendium for the Estimation of Forced Labour

by

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1 - USA Sweatshops by Prof. Ross

1.1 - Description

In the FL database the United States have 10 records for "forced overtime work" – the category where sweatshops belong. In this category some of the data are headcounts, mainly people freed by the Police, others are trafficked people or foreign illegal workers in the agro-business or garnment industry. The best-explained figure is the one from Prof. Ross of the Clark University for the number of persons working in sweatshop-like conditions in the country. Prof. Ross suggests that there are **255,000** workers in the U.S. sweatshops at present.[1] How is this figure obtained? Prof. Ross uses both an establishment method and an occupational method. The first concerns the businesses violating one or more of the 10 Fair Labour Standard Act principles. The occupational method focuses on the persons employed and their working conditions.[2]

Excerpts

1.2 - Estimation

METHOD ONE: OCCUPATIONAL ESTIMATION

Table A-1 gives the detailed numbers for the steps described below. See Chapter 1[3] references for the origin of violation rates.

1. Begin with a survey regularly published by the U.S. Bureau of Labor Statistics: The Occupational Employment Survey, last done in 1999, and available online at: http://stats.bls.gov/oes/1999/oesi2_23.htm. This source also gives median and mean hourly wages and annual earnings for each occupation. From that list of hundreds of detailed occupations in Apparel Manufacture (Standard Industrial Code –SIC- 23), the estimate took production occupations that were apt to be located in contractor shops. The violation rate of the Fair Labour Standards Act that the Department of Labour had found in major garment-making centers was known; in addition, the estimate added those other low-income occupations (below \$9/hour) that were likely to be associated with these operations. I performed the same operation for SIC 225 – Knitted mill products.

2. Sum the percentage of total industry employment of occupations vulnerable to sweatshops for SIC 23. These are occupations apt to be in contractor shops.

3. Since the survey was for 1999, the percent of vulnerable workers was applied to the total employment of the industry for the year 2000. This of course reduced the estimate of potential sweatshop workers because the industry is shrinking.

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[1] More exactly these are "U.S. apparel workers working in sweatshops conditions using the US Department of Labour and General Accounting Office Definition"(Prof. Ross personal communication).
[2] Details are found in unpublished Ross 2003: "The fall and rise of sweatshops in the United States", pag. 30-56.
[3] Stephen J. Ross, *The fall and rise of sweatshops in the United States*, unpublished paper for students.

4. The number of Vulnerable Workers established this number was multiplied by an estimated 50% violation rate.
   a. This is based on the 61+% violation rates in NY/LA and estimates as high in, e.g., El Paso, Miami, and Dallas. (See Chapter 1 text). The lowered overall the rate corrects for the fact that contractor shops are smaller than others are. A 50% rate to estimate the numbers of vulnerable workers actually in sweatshops.

5. To the above number was added an estimate of the invisible home sewing machine operators, taken to be an additional 20% of total number of visible sewing machine operators.

6. The same operation was performed to establish vulnerable occupations for SIC 225 (Knitting Mills) as percent of total industry employment, available online at: http://stats.bls.gov/oes/1999/oesi3_225.htm; and once again I multiplied the percent of total industry employment in vulnerable occupations in 1999, by the total industry employment in 2000, to get the vulnerable worker base number.

   a. For this industry group I then removed the sewing machine operators, and took an estimated 20% of remaining vulnerable occupations as sweatshop workers.
   b. For sewing machine operators, I estimated a 50% violation rate, and added this number back.

7. I added the SIC 23 and 225 figures for total estimate: **264,718 ≈ 265,000**

ESTIMATING THE NUMBER OF SWEATSHOP WORKERS IN THE APPAREL INDUSTRY IN THE UNITED STATES: 2000

TABLE A-1 Occupation Method

LIST OF VULNERABLE OCCUPATIONS IN SIC 23 AND SIC 225	
1999 National Industry-Specific Occupational Employment and Wage Estimates	
SIC 23 - Apparel and Other Finished Products Made From Fabrics and Similar Materials: http://stats.bls.gov/oes/1999/oesi2_23.htm	
Occupation	FRACTION OF TOTAL INDUSTRY EMPLOYM'T
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	0.0067
Maids and Housekeeping Cleaners	0.0002
Laundry and Dry-Cleaning Workers	0.0044
Pressers, Textile, Garment, and Related Materials	0.0175
Sewing Machine Operators	**0.4226**
Shoe and Leather Workers and Repairers	0.0028
Sewers, Hand	0.0145
Tailors, Dressmakers, and Custom Sewers	0.0049
Textile Bleaching and Dyeing Machine Operators and Tenders	0.0025
Textile Cutting Machine Setters, Operators, and Tenders	0.0236
Cutters and Trimmers, Hand	0.0032
Cutting and Slicing Machine Setters, Operators, and Tenders	0.0042

Inspectors, Testers, Sorters, Samplers, and Weighers	0.0313
Packaging and Filling Machine Operators and Tenders	0.0022
Cementing and Gluing Machine Operators and Tenders	0.0011
Helpers--Production Workers	0.0143
Laborers and Freight, Stock, and Material Movers, Hand	0.0225
Machine Feeders and Offbearers	0.0044
Packers and Packagers, Hand	0.0366
TOTAL PERCENT OF VULNERABLE OCCUPATIONS IN SIC 23, 1999	**61.95%**
Year 2000 ANNUAL EMPLOYMENT SIC 23	633,200
Times **61.95%** = Vulnerable Visible Workers	**392,267**
Estimated sweatshop rate =50%: **Visible sweatshop workers**	**196,134**
Plus **Invisible Sewing machine operators** @ 20% of total (42.26%* 633,200*(20%)	**53,518**
TOTAL SIC 23 ESTIMATED SWEATSHOP WORKERS	**249,652**

SIC 225: KNITTING MILLS http://stats.bls.gov/oes/1999/oesi3_225.htm	
OCCUPATION	FRACTION OF TOTAL INDUSTRY EMPLOYM'T
Pressers, Textile, Garment, and Related Materials (3)	0.0225
Sewing Machine Operators	0.1594
Sewers, Hand	0.0137
Textile Bleaching and Dyeing Machine Operators and Tenders	0.0547
Cutters and Trimmers, Hand	0.0004
Helpers—Production Workers	.0236
Laborers and Freight, Stock, and Material Movers, Hand	.0210
Machine Feeders and Offbearers (3)	.00049
Packers and Packagers, Hand (3)	.0453
TOTAL PERCENT OF VULNERABLE EMPLOYEES, SIC 225, 1999	34.55%
Year 2000 ANNUAL EMPLOYMENT SIC 225	125,600
Times 34.55%= Vulnerable *Visible Workers*	**43,395**
Minus sewing machine operators	22,105
Estimated sweatshop workers @rate 20% of non-sewers	4,421
Add 50% of sewing machine operators	10,645
TOTAL SIC 225 ESTIMATED SWEATSHOP WORKERS	**15,066**
GRAND TOTAL ESTIMATE OF NUMBER OF U.S. SWEATSHOP WORKERS IN YEAR 2000	**264, 718**

METHOD TWO: ESTABLISHMENT ESTIMATION

Table A-1.2 Summarizes this procedure

1. Estimate number of contractor shops in industry. There are different databases with somewhat different total numbers of establishments. The older Standard Industrial Classification (SIC) 23, apparel manufacturing had 22,947 establishments in year 2000. This older system does not clearly separate contractor shops from other establishments. The newer NAICS (North American Industry Classification System) substantially revises the SIC system. For 1997, for example, the year of the last published Economic Census, there were 25,068 SIC 23 establishments and 17,065 NAICS 315 establishments. The NAICS system, however, identified contractors vs. manufacturers in some of the major divisions of the industry; and it included large elements of the older SIC 225 – knitting mill products.

    The Bureau of the Census publishes a "Bridge" document which helps show the relation of the old to the new system. This was used to establish alternate estimates of the number of shops in the apparel industry that were contractors, and to whom known violation rates could be applied.

2. Seventy percent of the older women's outerwear division establishments were contractors; 59% of the entire new NAICS 315 are contractors. I took these as the parameters of the high and low estimates. To the high estimate, I used a 60% violation rate – that found by the Department of Labor in the large garment centers. To the lower estimate, I applied a 50% violation rate, correcting for potential regional variation.

3. The above procedures produced a range of 175,545 to 202,393 workers. To this number I added the same number of invisible (home) sewing machine operators as I had to the first method. The result is a range: 229,045- 255,893, whose midpoint is 242,469 ≈243,000.

Table A-1.2 Establishment Method

Method II: By establishment		Establishments	Number of workers	Industry average establishment size
2000 establishments, Year 2000 employment		22,947	633,200	27.6
Contractor shops estimate	70% of total establishments*	16,063		21.0
	violation rate of 60%	9,638		
	at 21 workers/establishment*		202,393	

60% of total establishments	13,768	25.5
if violation rate 50%	6,884	
at 25.5 workers/establishment		175,545
Add estimate of invisible sewing machine operators	53,500	
Low estimate		229,045
High estimate		255,893

* 71% of women's outerwear establishments are contractors, and their average size 21 employees; 59% of total cut and sew apparel manufacturing, as measured by the newer (NAICS) classifications, that count fewer establishments and workers in the industry, are contractors. These include 199,807 workers at an average establishment size of 25.5: See http://www.census.gov/epcd/ec97brdg/E97B1315.HTM. *1997 Economic Census: Bridge Between NAICS and SIC Manufacturing*

The Grand Compromise:

The midpoint of the estimates (243,00-265,000): 254,000 ≈ 255,000 sweatshop workers in the U.S.

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Analysis and Comments

Our goal being the measure of FL in its various forms, we must be careful with the definitions and the consequent inclusions: to be schematic we can distinguish four **degrees of exploitation** – as an *intensity* measure :

- Low pay (not FL)
- Low pay with forced overtime
- Low pay with forced overtime and degradation/abuse (physical or psychological)
- Low pay with forced overtime degradation/abuse and physical constraint

Where does FL begins? It is not our role to define it (at least now), but the "sweatshop issue" starts with: *A business that regularly violates both wage or child labour and safety or healthy laws.*[4] From then on we might use more or less strict criteria of inclusion, if data details allow it.

Concerning the *extention* of the phenomenon, Prof. Ross himself warns that 255.000 sweatshop workers is likely to be a high estimate, since "violation rates might be lower outside of New York and Los Angeles areas where the work is concentrated". We might take than this figure as a *ceiling* for the category "forced overtime work/sweatshops".

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[4] US General Accounting Officer, 1998 in Ross (2003), unpublished.

Finally, it is worth mentioning for our purposes that more forced labourers belonging to "forced overtime work" in the United States are likely to be found in the restaurant and agriculture sectors.

2 India - Bonded Labour

1.   Gandhi Peace Foundation Survey, 1979.
2.   Report of the Commission on BL in Tamil Nadu submitted to the Supreme Court 1995.
3.   Rapid appraisal into Vulnerability to Debt Bondage in…Tamil Nadu,[5] 2002.
4.   Findings on debt bondage, S. Subrahmanyam, 2002.
5.   Findings on debt bondage, Ajit Mani, 2002.

Description

India's measurement of FL is a long and sometimes harsh dispute. The phenomenon of bonded labour in agriculture and labour intensive industries is a known one and we will not discuss it here. We will present five studies, which – we hope - will throw some light on the measurement of FL in the sub-continent.

2.1 – The Gandhi Peace Foundation and National Labour Institute study

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[5] The last three papers have been prepared for the ILO Soc/Finance Dep.

Description of the Survey

- Structure: decentralized led by state coordinators, with trained field-investigators (objectivity?);
- Period of survey: May – October 1978 (to avoid monsoon season);
- The Marathwada district of Mahrashtra state and Orissa state results have been processed later;
- 8 states results are presented: Uttar Pradesh, Bihar, Karnataka, Gujarat, Madhya Pradesh, Tamil Nadu, Rajastan and Andhra Pradesh;
- These 10 states are thought to be affected by bonded labour;
- In Kerala BL is present only in the Wynad district (northernmost) and in small scale;
- In West Bengal the traditional form of bondage was given up for annual contract labour;
- In Punjab and Haryana the changed agricultural relations make the phenomenon highly improbable;
- The Northeastern states are excluded from the sample survey since in the traditional tribal societies no intra-tribal debt bondage was observed;
- In Jammu and Kashmir BL in agriculture is by and large absent.

Remark $\Rightarrow$ **Focus on BL in agriculture.**

- Sample: 1000 out of 450.119 villages in the ten states selected;
- How? $\Rightarrow$ Every 450th village in the census list of villages of each state starting with a random number was selected for the survey;
- The survey villages were distributed over the 295 districts of the 10 states;
- 1st level of information: the exact number of bonded labourers in the village, if this phenomenon is prevalent in the village, should be ascertained. This number was necessary to make projections at district and state level;
- 2nd level of information: for each BL a pre-formulated 44-item schedule should be filled in (socio-economic situation of BL);
- Field investigators were requested to interview at least 20% of BL identified in the village, […] though, this guideline was not to be taken as a rigid rule but as an orientation help and the interviewer was to judge the village situation and interview as many as the situation permitted without causing, or drawing himself into, social tension.

Criteria to identify BL

- The field investigator HAS to distinguish between BL and free agricultural labourers. Example: in Telenghana (Andhra Pradesh) the village people can differentiate between *jeetam* and *roojukuli*;
- The investigator makes use of the knowledge of the village people and proceeds as follows:

1. After the initial contact with people gathered around her/him, she/he sits down and inquiries about living conditions;

2. She/he approaches the problem of bondage via debt;
3. Asks if anyone in the colony is working for a landlord or a farmer due to the fact that he has taken a loan from the landed money lender;
4. Avoids mentioning the local term for BL first, but waits till colony people speak out about BL in the village;
5. When they mention the local term for BL the investigator directs the discussion toward this topic;
6. A type of discussion group emerges;
7. In the course of the group discussion the interviewer ascertains the exact number of BL working in the village and identifies some of them for individual interviews.

Projection of estimates

The number of BL for India was estimated in 4 ways, following the assumption that the selection of the villages in the particular district was representative[6]:

1. Proportion of BL in the population surveyed;
2. Proportion of BL in the population of agricultural labourers;
3. Proportion of BL in the scheduled castes and scheduled tribes (it was assumed that the scheduled caste and tribe population in the survey villages was representative of the whole district);
4. The average number of BL in the surveyed villages was assumed to be representative of the district average and was multiplied by the total number of villages of the district.

Results : **2.617.000 bonded labourers**

- These methods yielded similar estimates;
- The proportion of BL among scheduled castes and scheduled tribes was a bit smaller than the other figures;
- To arrive at the state estimates the comparable district estimates were added up and we had 4 state estimates;
- Four more state estimates could be calculated by using the same procedure as for the district level;
- To ensure the stability of the results we took the average estimate on the **district** level as well as on the **state** level.

State results

State	BL found	BL estim	Agri. Workers	BL/Agri	Villages surveyed
Andhra Pradesh	668	325000	6554395	4.96	60
Bihar	247	111000	6636655	1.67	147

[6] It is unclear however if the selection of villages is representative of the district or of the state. Concerning the global estimate for each state, in a different source, I found that each village estimate was multiplied by 450, as every 450th village was picked in the sample.

Gujarat	442	171000	1793587	9.53	40
Karnataka	350	193000	2534748	7.61	65
Madhya Pradesh	894	500000	3953179	12.65	170
Maharashtra	163	100000	5109509	1.96	65
Orissa	792	350000	1899567	18.43	117
Rajasthan	151	67000	711368	9.42	71
Tamil Nadu	806	250000	4180735	5.98	30
Uttar Pradesh	1072	550000	5310831	10.36	235
Total	**5585**	**2617000**	**38684574**		**1000**

Fin excerpts

Analysis and comment

- It is unclear if the sampling is totally random since the choice of every 450th village in the 1971 census list for each state might have led to overrepresentation of the villages in the states where there are more villages; the description does not allow us to clarify this topic;
- The tables do not give the socio-demographic data to check the extrapolations;
- The sample structure is based on 1971 census population distribution and is 24 year old!

  ⇒   The approach seems valid though.

2.2 - The Tamil Nadu Study of 1995

Excerpts

Report of the Commission on Bonded Labour in Tamilnadu submitted to the Supreme Court of India on 31.10.1995

Description

The Commission issued Appeals dated 23.07.95 and 11.08.95 to about **135 NGO's**, Human Rights organisations, and individuals all over the State to provide information regarding details of Bonded Labour, and it received a large number of replies.

The field officers were given a list of NGOs and other resource persons who would guide them. The field officers reported back to the Commission of the basis of sample case studies on 26.08.95, on the basis of which the contents of the questionnaire was prepared to be utilized in areas and occupations determined by the Commission.

In the second stage, during the months of Sep. and Oct. 1995, the Field Officers assisted the Commission in coordinating with field investigators and NGOs, and conducted formal interviews of bonded labour and complete Schedules prepared by the Commission, and obtained a representative sample of some occupations in each district. They prepared short district profiles and occupation structure notes and also collected statistics and material, wherever possible, in order to provide estimates of bonded labour in the area or industry. The commission visited each district to personally verify the cases of bonded labour.

The data was processed by a team comprising of Mr. M. Siraj Sait, Commissioner, Mr. R. Vidyasagar, Prof. S. Udhya Kumar and Mr. Sabin Mukath in the third week of Oct. 1995, and about **1500 case studies** from **22 districts** and over **20 occupations** were chosen by the Commission as the basis for its study.

Results

The distribution of the bonded labourer for different criteria is presented in the tables below.

Agewise distribution of BL

Age group	Male	Female	Total
< 15	77	62	139
>15 ≤ 20	109	20	129
> 20 ≤ 30	401	32	433
>30 ≤ 40	320	35	355
40 >	332	29	361
Total	**1239**	**178**	**1417**

District-wise and gender distribution of BL

District	total	male	female
Ambedkar	198	131	67
Chengai Mgr	222	190	32
Coimbatore	20	19	1
Dharmapuri	93	93	0
Dindigul Anna	71	70	1
Madurai	46	41	5
Nagai	21	21	0
Nellai	15	7	8
Nilgiris	26	19	7
Pasumpon	38	37	1
Periyar	38	38	0
Pudukkottai	111	101	10
Ramanathapuram	46	44	2
Salem	115	103	12
Sambuvarayar	83	80	3
Thanjavur	16	13	3
Tiruchy	115	102	13
V O C	20	18	2
Vallalar	92	84	8
VRP District	31	28	3
Total	**1417**	**1239**	**178**

Occupational distribution of BL

Industry	total	male	Female
Agriculture	308	293	15
Beedi Work	94	55	39
Brick Kiln	60	47	13
Handlooms	13	11	2

Cottonrope	21	17	4
Dyeing	23	22	1
Fishing	57	57	0
Floriculture	33	11	22
Gemcutting	150	134	16
Mat Weaving	35	35	0
Plantation	34	27	7
Power Loom	79	79	0
Quarrying	284	257	27
Rice Mill	8	8	0
Silk twisting	5	0	5
Salt Pans	15	11	4
Silverwork	36	29	7
Silkweaving	156	141	15
Woodcutting	6	5	1
Total	**1417**	**1239**	**178**

Limitations of the study

The Commission has operated under several constraints of time individual, resources and frequently under risk from hostile employers of bonded labour. The other limitation was that it often did not have access to the official and other records that would have provided better leads. In several districts, the Commission was handicapped by lack of government help. There were several areas that the Commission could not access, such as the Kodaikanal coupes.

The interviews of bonded labourers themselves were a difficult task, given their often-precarious conditions. The commission did encounter difficulties in arriving at scientific bases of estimates. For example, the Quarry Workers Development Trust which has branches in 17 Districts of Tamil Nadu, and is directly working with Quarry workers estimates then number of Quarry workers in Tamil Nadu at 15 Lakhs (1 lakh = 100.000). On the other hand the 1991 Census put Quarry workers in the state at 50.000.

The Commission, therefore submits the Survey to the Supreme Court though credible, not as the final word on the numbers but as beginning. These are estimates considering that it is a sample survey that could cover only a fraction of the **population of about 60.000.000 individuals** spread over **130.058 sq. km**.

Fin excerpts

2.3 – Rapid appraisal into Vulnerability to Debt Bondage in Tamil Nadu, ILO, Soc/Finance 2002

Three stages are involved :

1. Household survey: 524 households in 4 four different areas of Tamil Nadu state;
2. Rapid assessment : Participatory rural appraisal undertaken in one third of the villages of household survey (66*3) : 66 villages
3. Semi-formal discussion

"…household and rapid appraisal surveys' samples were NOT selected randomly "; "…the sample size of 125 per district originally planned was not respected"

Fin Excerpts

Comments

This ILO paper shows NO NUMBERS; it is a very detailed socio-economic study NOT purposed at estimating forced labourers.

2.4 - Findings on debt bondage, S. Subrahmanyam, 2002

Excerpts

- Debt bondage is the most common form of FL and results from an unequal access to resources and unequal balance of power within the communities.
- Bonded labour is made of a complex web of relations that are not exclusively financial

- Area : Andhra Pradesh state, focus on region of Rangareddy (study Area)

- State-level sources: Rural Labour Enquiries, National Sample Surveys and Population Census

• Study area sources:

1. 80 villages in five *mandals* (administrative units) with 30064 households of which 643 released BL. All released BL living in a selected village were surveyed; villages in the first three *mandals* were selected by probability proportional sampling method: villages were arranged in descending order of population size and selected randomly with

probability proportional to the size of the village. In order to obtain sufficient coverage of released BL in the total sample, in the remaining two *mandals*, villages with high proportion of bonded labourers were selected.

2. 2421 other households from selected villages were selected by random-walk method: in each lane of the village every fifth household was covered. As the survey desires to obtain estimates of different caste and occupational categories of households in the study area, all localities in the village were covered. If any household was dropped owing lack of cooperation, the next immediate household was selected.

- Households are grouped into five categories, which include both released BL and other households. One reason for not making a distinction between these two groups is that most BL were released <u>more than 10 years ago (!)</u> and their household characteristics may not differ much. With the method of sampling that was applied, no generalisations for Andhra Pradesh should be made anyway. ☹
- Sample is not random, focus on the characteristics of different types of household.

Households surveyed by worker categories

Work category	No. Households	%
Jeetam	114	3.7
Daily wage	1130	36.8
Self-employed	1768	57.7
Monthly salary	37	1.2
Others	15	0.48
All households	**3064**	**100**

Fin Excerpts

2.5 - Findings on debt bondage in Karnaka, Ajit Mani, 2002

Excerpts

Description

- Four of the most backward districts in the Karnaka state;
- Two *talukas* sub-districts per district known for the strong presence of BL;
- Random approach from village list available at the *taluka* headquarters: central, northern, southern and eastern zones were determined and;
- Six villages in each *taluka* from village list;
- 11 households per village by quota sampling approach;

- 529 questionnaires in total in the 8 selected *talukas*.

Quotas

Dalit/tribal (rbl)	3
Dalit/tribal (other)	3
Backward	3
Dominant	2
Total	**11**

Scopes and limitations of the study:

- The districts selected for this study lie in four corners of Karnataka […and] they are reasonably representative of the nature and practice of bonded labour in the state;
- Selection of the districts and *talukas* was subjective
- Randomisation was introduced in the selection of villages and households
- Samples were small

Fin Excerpts

Analysis

The study includes an analysis of the rural credit with description of :

- loans available from the formal banking sector
- informal community credit system or *chit* funds
- farm management and labour employment systems

Type of approach to credit

Approached	Bank	Chit fund
Yes	133	49
No	396	480
Total	529	529

Sources of credit of indebted households

Landlord	293
Friends	68
Society (coop)	8
Bank loan	37
Moneylender	89
Others	15
Total	**510**

The study has a chapter with an in-depht analysis of the vulnerability to forced labour.

⇒ Three categories of debt bondage:

- Caste-based bondage based on traditional relationships between generations of landlord and their labourers, who could be from the same caste as the landlord but are usually from lower ones;
- A sudden need for a large sum of money (Rs 1000 to Rs 15.000) for an emergency, traditional celebration or marriage drives a labourer to pledge himself/herself or children against a *jeetam* contract;
- A combination of the two.

3 Niger Slaves

NGO "Timidria" Slaves direct counting

Description

- In June 2002 the 8 research teams have gone to six out of the eight regions of Niger where slavery is present, following Timidria expertise, namely: Agadez, Dosso, Maradi, Tahoua, Tillaberi, Zinder;
- The Diffa and Niamey regions are not included because of safety and incidence (of slavery) reasons respectively;
- The survey was performed from the 5th to the 14th of August 2002 in the aforementioned regions by 8 supervisors, 8 coordinators, 87 resource persons in 10 vehicles;
- Three more missions have concerned Agadez, Tillaberi and Zinder later on (questionnaires and photos of abuses);
- 11000 questionnaires filled;
- Slaves are asked about master's total known slaves and his wife's;
- Problem of double counting of the slave masters;

Results

- 11001   slaves contacted
- 35381   slaves' children
- 695665   master's slaves
- 128316   master wife's slaves
- 870363   Total

Analysis

The first two numbers are reliable, but the following have to be treated with caution since slaves belonging to the same master declare his slaves every time;
The likelihood of finding slaves of the same master is judged weak by the authors since slaves in Niger are very disperse and can be (hundreds of) kilometers from their master

Comments

If a sample survey is too costly, the choice of counting can be an efficient estimation method;
The correction for double counting of masters will provide a robust figure of slavery in Niger;
This can be done by cross-checking of names, numbers and places (database work);
Finally, Timidria has raised the awareness of the authorities, resulting in legislative measures.

4 Pakistan Bonded Labour

1 Baseline survey of Haris in Sindh and Brick Kilns in Punjab, 2002
2 Bonded Labour in Pakistan : An Overview, 2001, Aly Ercelawn, Muhammand Nauman

4.1 - Baseline survey of Haris in Sindh and Brick Kilns in Punjab, 2002

Excerpts

Description

- All *haris* and brick kiln households in rural *Sindh* and *Punjab* respectively are included in the universe;
- 60 villages in 11 districts of Sindh, 300 households (5 per village);
- 100 brick kilns in 34 districts of Punjab, 300 households (3 per village);
- 20 enumerators and 5 supervisors led the survey;

The sample size of 300 households each is too small and cannot provide representative data for the provinces of Sindh and Punjab.

Training of the interviewers was conducted in two rounds during which the contents of the questionnaire were revised.

A Bonded labourer will be a labourer (and or possibly his/her family) being exploited by his employer (nominal pay, denial of access to outside resources, abuses) for repayment of *peshgi*, and/or for socio-cultural reasons.

Sample design: two-stage stratified random sample

- The mouzas/dehs/villages and brick kilns are considered the Primary Sampling Units (PSU)
- For the haris in Sindh, the sample villages have been selected adopting probability proportional to size (PPS) sampling scheme
- For brick kilns, specified number of brick kilns have been drawn from each district with simple random sampling
- The households of haris/brick kiln workers as identified during the listing operation undertaken in each sample village of 11 districts of Sindh and selected brick kiln in each district of Punjab province were considered as Secondary Sampling Units (SSU)

Remark: it is a very detailed socio-economic study whose purpose goes beyond the estimation of bonded labourers (clothing expenditure, number of meals, housing conditions, lighting and fuels etc.)

Results

Households indebted

Status of indebtedness	Haris	Punjab
Total	100	100
Household indebted	98.7	73

Household not indebted	1.3	27

Details of debt source give the Source Specific Indebtedness Rate (SSIR) defined as the percentage of indebted household of a particular source to the total indebted households :

SSIR	Haris	Punjab
Household indebted	98.7	73
from employers [a]	93.7	87.7
From shopkeepers	72	5.3
From relatives/friends	1	5.5

(a) Sub-totals don't add to the "household indebted" value

since a single person can borrow from different sources.

The type of debt is by large intergenerational[7]:

Nature of Debt	Haris	Punjab
Inherited	98.6	83.1
Contracted	0.7	16
Both	0.7	0.9

The survey gives details of how the debt is repaid: 1) in cash, 2) in kind, 3) with work, 4) in cash & in kind, 5) in cash & with work, 6) in cash, kind & with work.

Fin Excerpts

Comments and analysis

- The survey is very detailed about causes and structure of the two ethnic groups;
- It gives only the percentages;
- It is unclear whether the debt bondage leads the person and his family in a true forced labour situation.

4.2 - Bonded Labour in Pakistan : An Overview, 2001

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[7] I find this statement incoherent with the debt duration period which doesn't go beyond two years for the Haris.

Description of Bonded labour in agriculture

Excerpts

- Regardless of the absence of firm data most observers and activists believe that bonded labour defines life and livelihood for many hundreds of thousands of man, women and children even when restricted to sharecropping agriculture and the brick kiln industry.
- The situation is considered the most abject in lower Sindh, followed by southern Punjab
- Upper limit to the scale of BL can be defined whenever the landlord extracts unpaid or nominally paid compulsory labor for the landlord on his own farm or domestic needs. We believe that this situation is near universal in a sharecropping relationship
- Lower limit to the scale of BL can be constructed by introducing stricter criteria:
- tenant substantially indebted to landlord;
- debt is taken for consumption

Estimated sharecroppers in debt bondage (based on Census of Agriculture 1990), 2000

	Tenants (households)	Tenants in debt (households)	Sharecropping among tenants (% of area)	Non-institutional debt in tenant debt (%)	Sharecroppers in bondage (households)	Sharecroppers in debt bondage (households)	Sharecroppers in debt bondage (persons)	Sharecroppers in debt bondage (persons)
	1990	1990	1990	1990	1990	1990	2000	2000
Pakistan	962014	291472	0.75	0.9	721510	196744	6742626	1838686
Sindh	335550	107394	0.8	0.93	268440	79901	2508726	746721
Punjab	446440	99916	0.68	0.86	303579	58431	2837120	546071
Hyderabad	191134	77857	0.76	0.94	145262	55621	1357557	519810
Multan	83184	18619	0.6	0.82	49910	9160	466438	85605
Bahawalpur	72528	21526	0.7	0.88	50770	13260	474475	123922

Household size is taken to be 7.5 persons per household and can be used to estimate the population of bonded man, women and children of whom half would be females. Projections to 2000 assume an annual population growth rate of 2.2%/yr. This gives (my calculations):

Year	Upper	Lower
1990	**5411325**	**1475580** [8]
1991	5530374	1508043
1992	5652042	1541220
1993	5776387	1575127
1994	5903468	1609779
1995	6033344	1645194
1996	6166078	1681389
1997	6301731	1718379
1998	6440369	1756184
1999	6582058	1794820
2000	6726863	1834306

Analysis

The conservative inter-censal (1981 – 1998) rural population growth rate of 2.2 per cent would indicate nearly 6.8 millions persons. This is certainly an upper limit even with the broadest definition of bondage since a continuation of past trends indicates a steady reduction of landless tenants and sharecropping. The census of Agriculture shows that between 1980 and 1990 the landless tenant farms declined from 1.05 to 0.95 million and sharecropped area in tenant farms decreased from 8.5 to 5.7 million acres.

Focusing on sharecroppers in debt to landlords can specify the lower bounds to the bonded tenant population. Proxies for the latter can be applied to the nearly 300.000 landless tenants in debt. (A recent rural credit survey (1995-96) by the Applied Economics Research Centre University of Karachi provides support to deductions from the Census. Data extracted for us show that in a national sample of 1.182 tenants, around 18% had taken one or more loans from the landlord in the past five years. This is close to 20% derived as an approximation from Census on debt.) This restriction drastically reduces the estimate of bonded sharecroppers to around 200.000 households in 1990, which further implies 1.8 million persons in bonded sharecropper families across all Pakistan in 2000.

Bonded labour in brick-kilns

- Around 2000 BL families freed with the assistance of the Bonded Labour Liberation Front from January 1999 and Mai 2000;
- Human rights Commission of Pakistan report cites 2.455 brick-kilns in the country, with 120.000 workers (48.000 women), this seems a 20 year old Applied Socio-Economics Research study reporting that three-fourth are in Punjab and one tenth in Sindh;
- Our estimate is 200 brick-kilns for the Sindh and 2200 for Punjab (from the 1.800 of 1980);
- Two interviews with brick-kilns owners in Lahore indicate that there could be as many as 4000 brick-kilns in Pakistan;
- Both owners confirmed that all workers took advances and loans and these were to be adjusted against workers remuneration;
- Brick-kilns visited were larger than nation's average: on average 25 family brick makers and another 10 worker families involved in subsequent tasks;
- An average of four adult and child workers per family would imply 400.000 brick makers in debt bondage;
- An average family size of seven persons among brick makers means 700.000 could be in the grip of BL across the 4.000 brick-kilns of Pakistan;
- When other brick-kilns are included a very rough upper estimate would be 1.000.000 persons of brick-kilns BL;
- A recent official estimate gives 2.166 brick-kilns in Punjab at the end of 1990's.

𝔍in Excerpts

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[8] $5411325 = 721510 * 7.5$ and $1475580 = 196744*7.5$

5 Myanmar Forced Labour imposed by military

E-mail by John Jackson of Burma Campaign on Doug Steele Estimate

The estimate quoted in "Burma: The Alternative Guide" mentions 921,753 people in FL. How? Starting from a national estimate of Kyat (national currency) saved for public works we proceed as follows:

U.S. Embassy/Doug Steele estimate

Description	Lower	Upper	Unit
US Embassy 1995 estimate of value of FL	1750000000		Kyat
Average daily wage	60		Kyat/day.Person
Ratio gives	29000000		man days
div. By days in a year	365		days
FL people	800000		men
10 or 12 sets of people rotating in FL each month	8000000	10000000	population in FL every year for a month

6 Tanzania Children prostitution

IPEC Tanzania Children in prostitution: A Rapid Assessment, November 2001

Area covered

- 9 selected sites in Dar es Salaam in Kinodoni district
- 5 selected sites in Ruwuma district
- selected sites in Singida/Kiomboni district
- 8 selected sites in Mwanza district

Results : 450 to 500 minors counted

7 Commercial Sexual Exploitation Mexico

Niñas y Ninõs Victimas de Exploitatiòn Sexual en Mexico by Elena Azaola

Sample: 6 towns ⇒

- Guadalajara: *second biggest town*, likely to represent well the characteristics of child trade ⇒ **offer**;
- Acapulco, Cancùn: major tourist *destinations* to investigate **demand**;

- Tapachula, Tijuana, Ciudad Juàrez: *border towns* to investigate **trade**.

Method

- Interviews with high-rank city officials involved with the issues of eradicating the CSE of children, to understand HOW the phenomenon occurs (*key-informants*);
- Uniformisation of information by organization of contact sources in the different cities (hospitals, courts, human rights associations, child protection associations);
- Coding of the acquired information.

Measurement

The goal was not to design a representative sample of the population
Method adopted : **snowball**

Interview results

Towns	Cse children (< 18 years old)
Acapulco	1000
Cancùn	700
Ciudad Juàrez	800
Guadalajara	600
Tapachula	600
Tijuana	900
Total	4600

Analysis and comment

The study remarks that the above numbers are not final ones but just a first approximation, mentioning this is a useful estimate of the magnitude of the phenomenon at the national level. Such estimates were computed by taking into account the number of children going to specialized medical centers and summing the number of establishments and the number of children in each of them. The authors believe that, besides Mexico City, there will hardly be places in the country where a larger number of exploited, because of the socio-economic characteristics of the sample cities.

In all, this study seems very well focused. It features a "state-of-the-art" questionnaire, which aims at *pulling out* useful information from public officials and local NGO's...and it seems to work!

Statistically, it is an alternative method to random sampling to quantify the FL phenomenon because it digs as much as possible to count all the victims, by *sieving* the areas of interest. This one in particular seems to me particularly well built with an previous in-depth knowledge of the phenomenon.

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8 BRAZIL Forced Labour in rain-forest by debt bondage

- The context is the deforestation and the exploitation of rural workers in the rain forest (Para region of Brazil). Evidence of the existance of Forced Labour is brought in by Father Rezende, a clergyman, who has assisted FL victims for several years.
- Father Rezende cites recent satellite photos of a remote portion of southern Para state that cattle ranchers are converting to pasture.
- The photos show more than 230,000 hectares (568,100 acres) were cut down in a matter of months. Father Rezende estimates it would take some 10,000 men working simultaneously over several months to clear that much forest.

The unclear is the *several*:

1. For 6 months: $230000/6 = 3833.34$/month $\Rightarrow 38333.3/10.000 = 3.8$ he/man.month
2. For 3 months: $230000/3 = 7666.67$/month $\Rightarrow 7666.67/10.000 = 7.6$ he/man.month

He assumes that the work was carried out by debt slaves because that's the way most of clearing in the region is carried out and about **80 percent of all debt slavery** occurs in southern *Para* state.

9 Nepal – Trafficked Children by IPEC Rapid Assessment No. 2

Authors were from NGO *Society Protection Youth Club* of IchowkVDC of Sindhupalchowk District, with help from "Helpline" NGO in Gongabu Bus Park (48 rescued girls in 1 year).

- Area coverage : 4 wards;
- 32 researchers on field;
- all households of each ward belonging to the VDC approached;
- 20% of the households (=61) were affected by child trafficking;
- During 4 years 73 children trafficked from the affected households;
- This translates to an average of 5 children trafficked from each Village Development Committee (VDC) in the 26 most trafficking-prone district each;
- 100 vulnerable households investigated;
- 53 girls trafficked from 11 VDC;
- 3 girls trafficked from 38 households in 3 municipalities;

- Information indicated that the average flow of trafficked girls in one year from one VDC in the 26 most trafficking-prone districts is roughly 5 girls.
- Assuming an average of 5 girls form the 26 most trafficking-prone districts;
- Half of this (2.5) from the 11 additional trafficking-prone districts;
- One girl on average is trafficked from 38 households in 3 municipalities;

Total $\Rightarrow$ **12.000 children trafficked every year from Nepal.**

10 Global estimates on the scale of trafficking by IOM

Trafficking and human smuggling : a European perspective **by John Salt**[9]

- Jonas Widgren produced the most widely accepted and quoted figure in 1994;
- He estimated that in 1993 there were 250-350.000illegal migrant entries into western Europe;
- This was calculated on extrapolations of how many illegal migrants reached their goal as a reflection of the known number of migrants apprehended when seeking to transit through the green borders of intermediate countries on their way to the final goal;
- Border control showed 60.000 apprehensions
- Talks with border officials led to believe that 4-5 times that number got through undetected;
- In addition to illegal migrants, there were 690.000 asylum seekers;
- Half of these asylum seekers, Widgern estimated, were not in need of protection;
- 15-30% of illegals "could be estimated" to have used the services of the traffickers during some part of the journey;
- Between 20 and 40 % of asylum claims were estimated to be unfounded, about 300.000;

$\Rightarrow$ 40-100.000 illegal migrants and 60-120.000 asylum seekers were estimated to have used traffickers (total ranging from 100.000 to 220.000).

IOM proposed that one out of three attempts is caught and thus that 100-300.000 people enter Europe illegally each year with 25-75.000 smuggled by traffickers.

11 Benin Children trafficked World Bank/Terre des Hommes,

Sampling

- Because tracing children abroad and in urban areas *after* migration is difficult and resource demanding, the alternative is to go to the source: the rural villages the children come from;

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[9] From *International Migration*, Quarterly Review, Vol 38 No. 3 Special Issue, Perspectives on Trafficking in Migrants, 1/2000.

- This study is based on interviews with parents in rural households;
- Each rural household in Burkina Faso has the same chance to be represented;

    $\Rightarrow$ random stratified sampling

- Sample base was the list of 8000 villages from the 1996 census;
- First a random sample of village was drawn (150 villages[10]);
- Then randomly-sampled households within each village, the number as function of population size in the village that year [11];
- 4500 randomly sampled rural households;
- 7354 rural mothers interviewed, which cover;
- 23542 rural children..
- By 90 interviewers (women only, more suited to approach the mothers).

Findings

- 9.5% of Burkinabe children 6-17 years old live outside of proximity of their parents;
- 29% of these children live abroad (most in Côte d'Ivoire, 22%);
- In absolute numbers this comprises 330.000 children, with..
- 95.000 living abroad (73.000 in Côte d'Ivoire);
- This translates into 165.000 child labour migrants between 6 – 17 years old..
- With 94.000 boys and 71.000 girls;
- 83.000 work abroad, 47.000 boys and 35.000 girls;
- 66.000 work in Côte d'Ivoire, 36.000 boys and 30.000 grils;
- 7000 in Ghana and 3000 in Benin.

In a rural population estimated to 10 millions, the 6-17 age group would comprise approximately 35%, and thus represent 3.5. million rural children; if 4.7 % of these are labor migrants this should represent around 165.000 children.

Comments

It is a very detailed study with a consistent sampling method to extrapolate the number of migrating working children.
This work has also a deep questionnaire used to perform a regression analysis of many factors influencing the migration of the child.

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[10] Almost all of the 45 provinces were represented in the village sample
[11] The largest village Bouroum in Namenantega had 5562 inhabitants in 1996, 141 households sampled; the smallest had 30, one household was sampled. One very small village wasn't found and was so excluded, leaving the research with 149 villages and 4463 households to visit.

Unfortunately for our purpose it does not identify the children in FL; it gives details about *where* the child is gone and *with who* is he gone.

12 France Domestic Workers by Comité contre l'esclavage moderne (CCEM)

There is no statistical method for the estimation of domestic workers in slave-like conditions. This form of FL is by definition hidden behind house walls and the statistical universe of reference is widespread : all domestic workers[12].

Since 1998 CCEM recorded 375 cases, between these victims :

- 61,4%   perceived no wage at all ;
- 13,9%   had less than 150 Euros/month ;
- 8,6%   had more than 150 Euros/month .

	Victims	Employers
AFRICA	55.4	38.7
West Africa	66,6	63.9
Central Africa	11.2	
East Africa	5.2	13.4
Maghreb	17	22.7
ASIA	26.2	4
South-east Asia	48.4	
Sub-Indian continent	42.2	0.8
China	9.4	
INDIAN OCEAN	10.8	7.1
MIDDLE and NEAR EAST	4	7.3
ARAB COUNTRIES		20.5
Gulf countries		63.5
Middle and near East		36.5
EUROPE	1.8	20.2
SOUTH AMERICA	1.8	1.2
Unknown (sic!)		7.5
TOTALS (add bold numbers)	**100**	**100**

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[12] Even restraining to the people entering the country with the Diplomats (who deserve an *ad hoc* visa), wouldn't help: the FL cases found with an employer/exploiter diplomat are only one third of the total. We may add that the only way to ascertain correctly the phenomenon is a politically risky one: to sample randomly diplomats houses to verify the working conditions of the employees.

- 88% of victims are women ;
- 50,8% have been recruited by their employer;
- 23,2% of the employers have diplomatic immunity

The process of counting the victims is made increasingly effective by information campaigns and a progressive "rooting" of the NGO within society.

Who does alert the Comité about a slave ?

- Associations and social services : 28,2%
- Anonymous signalizations : 21,8%
- Neighbors : 14,5%
- Victims : 9,5%
- Police officers : 2,4%
- Others : 23,6%

We recall that almost all the cases end up with a mediation with the employer : 97%.

13 USA illegal immigration estimation – Macro and Micro data

1 Macro data

The U.S. Immigration and Naturalization Service (INS) has developed a methodology to estimate the number of illegal residents by combining :

- Data on the foreign-born population from the 2000 census;
- INS administrative data;
- A new methodology for estimating annual trends in population growth.

The first step was to estimate the number of unauthorized residents in January 2000. Separate estimates were developed for:

1. Unauthorized residents who entered the US in the 1990's and were in at January 2000: *Total* **foreign-born population –** *legally resident* **foreign-born population**. About 12.6 million foreign-born persons who entered the US from 1990 to 1999 were counted in the 2000 Census, INS adjusted this number upward 850.000 to account for the estimated undercount in the Census[13], yielding a foreign population of nearly 13.5 million, 8 of whom were legal (5.5 million were illegal);
2. Unauthorized residents who entered the US before 1990 and were in at January 2000: **estimated illegal population in the US in January 1990 – those who left**. INS estimates

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[13] Assuming a 10% net census undercount for unauthorized residents; for lawful residents it is set at 2.5%.

that 3.5 millions unauthorized residents were living in the US in January 1990, while 2 million left the population during the 1990's. Thus, 1.5 million who entered before 1990 were still residing illegally in January 2000.

Combining the estimates above yields a total of 7.0 million unauthorized immigrants residing in the U.S. in January 2000.

Population trends

The next step was to determine haw many actually moved to the U.S. each year in the 1990s by "working backward" from 2000. The first estimation concerned the number that *left* the unauthorized population each year. Five possible cases:

1. Removed by INS
2. Die
3. Emigrate
4. Adjust to lawful status
5. Depart and return with immigrant visa

Example for the 1994 cohort:

Entered in 1994 and were still illegally in 2000: 515.000
Entered in 1994 and left from 1994 to 2000: 171.000
Entered in 1994 : 515.000 + 171.000 = 686.000

Results

- INS estimates that the total unauthorized population residing in the US in January 2000 is 7 millions.
- The last estimate was 5 million for October 1996, with the new methodology this number becomes 5.6 millions for the same date.
- Estimated population growth was variable in the 1990's and on average was 350.000/yr, 75.000 higher that INS' previous estimate for the 1990's.

	Foreign-born population—entered 1990-1999		
1	Foreign born population counted in the 2000 census	+	12,607
2	Adjustment of census data back to january 2000	+	112
3	Net adjustment due to negative individual country residual	+	51
4	Adjustment for misreporting of year of entry by IRCA beneficiaries	-	175
5	Adjustment for undercount of nonimmigrant residents in census 2000 (10%)	+	150
6	Adjustment for undercount of LPR's and other legal residents in census 2000 (2.5%)	+	162
7	Adjustment for undercount of unauthorized residents in census 2000 (10%)	+	549
8	Estimate total foreign born population, January 2000	=	**13,456**

	Legally resident foreign-born population		
9	Legal permanent residents--new arrivals + adjustments by year of arrival	+	5,799
10	Estimated number in #9 above, misclassified as "new arrivals"	-	347
11	Of those in #10 above, entered 19990-1999	+	30
12	Refugees arrivals	+	932
13	SAWs moved to the United States in the 1990s	+	120
14	Deaths, sum for all 10 cohorts, from year of entry to January 1, 2000	-	156
15	Emigration, sum for all 10 cohorts, from year of entry to January 1, 2000	-	489
16	Nonimmigrants residing in U.S., January 2000	+	1,500
17	Unauthorized immigrants with pending I-485 forms--LPR status not yet official by Jan. 2000	+	200
18	Asyles, parolees, TPS recipients with work authorization but not adjusted to LPR status by Jan. 2000	+	377
19	Estimated total legally resident foreign-born population--January 2000	=	**7,967**
	Unauthorized resident Population--entered 1990-1999		
20	Resided in U.S. in January 2000, entered 1990-1999 **20 = 8 - 19**	=	**5,489**
	Unauthorized resident Population--entered before 1990		
21	INS estimate of unauthorized residents, January 1990	+	3,500
22	Left the unauthorized resident population, 1990 to 1999	-	1,989
23	Unauthorized, entered before 1990, resided illegally in Jan. 2000	=	**1,511**
	Total unauthorized population residing in U.S. January 2000		
24	Entered 1990-1999 + entered before 1990 and still here **24 = 20 + 23**	=	**7,000**
25	Average annual growth Jan. 1990 to 2000 **25 = [24 - 21]/10**	=	**350**

2 Micro Data

The above estimations dealt with various national sources, but they also used adjustments coming from sample surveys, *e.g.* interviews of foreign-born population in the Los Angeles County, to estimate the Census underreporting on unauthorized (mostly Mexican) immigrants.

The Three-card method

The Three-card method is a relatively new approach, which randomizes survey response for sensitive questions, like the legal status of a person, which the INS, under advice of the General Accounting Office, employed for adjusting the 2000 census results.
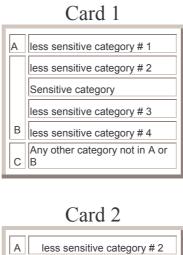
The three-card approach aims at estimating the number people belonging to the sensitive category indirectly. The method involves :
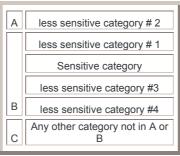
- 3 independent representative *samples*, each composed of completely different persons;
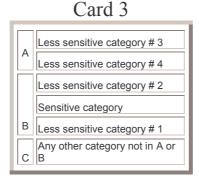
- 3 slightly different *cards*, with;
- 3 *answer box* each.

The revelation of the person's status is eased by "diluting" the sensitive case - the illegal status - with other statuses within the same *box*. By changing these systematically it is possible to estimate the statistical *residual* from the intersection of the three B boxes, representing the sensitive cases, *i.e.* the illegal immigrants.

In the example below, the Box B has always different "less sensitive category" in for each card:

Card 1

A	less sensitive category # 1
	less sensitive category # 2
	Sensitive category
	less sensitive category # 3
B	less sensitive category # 4
C	Any other category not in A or B

Card 2

A	less sensitive category # 2
	less sensitive category # 1
	Sensitive category
	less sensitive category #3
B	less sensitive category #4
C	Any other category not in A or B

Card 3

A	Less sensitive category # 3
	Less sensitive category # 4
	Less sensitive category # 2
	Sensitive category
B	Less sensitive category # 1
C	Any other category not in A or B

If the categories listed in Box A, B, C are mutually exclusive and together exhaustive, then they add to 100. A real card set is:

Card 1

A	Legal foreign resident
B	U.S. Citizen
	Work, tourist or student visa
	Undocumented
	Refugee, asylee
C	Other category

Card 2

A	U.S. Citizen
B	Legal foreign resident
	Work, tourist or student visa
	Undocumented
	Refugee, asylee
C	Other category

Card 3

A	Work, tourist or student visa
	Refugee, asylee
B	U.S. Citizen
	Legal foreign resident
	Undocumented
C	Other category

Statistical expression of the 3-cards estimator, its variance and technique effect

Write:

P_x = the proportion of foreign-born persons with illegal status;

P_1 = the proportion of foreign-born persons who are U.S. citizens;

P_2 = the proportion of foreign-born persons who are resident aliens;

P_3 = the proportion of foreign-born persons here legally with a temporary work/study visa or as refugee or asylee;

$P'_1 P'_2 P'_3$ and P'_x = direct-question estimates of $P_1 P_2 P_3$ and P_x respectively;

n_1, n_2, n_3 = sample sizes chosen for estimating $P_1 P_2 P_3$ respectively;

$EST(P_x)$ = the indirect estimate of the population with illegal status.

Assuming $P_1 P_2 P_3$ and P_x sum to 100 (i.e. taken together the legal categories asked about plus the illegal category are exhaustive), the indirect estimator of P_x is:

$EST(P_x) = 1 - (P'_1 + P'_2 + P'_3)$;

and its variance:

$VAR(EST(P_x)) = 0 + VAR(P'_1) + VAR(P'_2) + VAR(P'_3) = VAR(P'_1) + VAR(P'_2) + VAR(P'_3)$;

To illustrate this explicitly let's assume:

$n_1 = n_2 = n_3 = 1/3\ n$;

where

n = total sample size. The expression becomes

$$VAR(EST(Px)) = \left[\frac{P_1 Q_1}{\frac{1}{3}n}\right] + \left[\frac{P_2 Q_2}{\frac{1}{3}n}\right] + \left[\frac{P_3 Q_3}{\frac{1}{3}n}\right] ;$$

$= [(P_1 Q_1) + (P_2 Q_2) + (P_3 Q_3)]/[(1/3)n]$;

$= 3(P_1 Q_1 + P_2 Q_2 + P_3 Q_3)/n$;

with $Q = 1 - P$.

Assuming that $P_x = P_1 = P_2 = P_3$:

$VAR(EST(P_x)) = 3[(3)(P_x Q_x)]/n = 9(P_x Q_x)/n$;

The technique effect is written :

$TECH\text{-}EFF = VAR(EST(P_x))/VAR(EST(P'_x)) = 9(P_x Q_x/n)/(P_x Q_x)/n = 9$.

A technique effect of 9 implies a tripling of the standard error; a 95% confidence interval for $EST(P_x)$ would be 3 times as wide as for direct estimate based on the same total n.

Example 1: In a population of foreign-born agricultural workers, the distribution of immigration status might be 55 % illegal, 36% legal permanent residents; 3% U.S. citizens; and 6% temporary workers, refugees or asylees. Assuming this distribution and a total sample size of 1.000 with:

- 100 respondents to answer the card with U.S. citizen in Box A;
- 200 to answer the card with temporary visas, refugees or asylees in Box A;
- 700 to answer the card with legal permanent resident in Box A;

the 95% confidence interval for an estimate of 55% illegal would be 49 to 61 percent.

Example 2: In the residential foreign-born population of the U.S. taken as a whole, the distribution might be :

- 22% illegal
- 30% U.S. citizens
- 38% legal permanent residents
- 10% temporary workers, refugees or asylees

Having a total sample size of 13.000 (the approximate number of foreign-born in the Current Population Survey supplement) with

- 6.000 to answer the card with legal permanent resident in Box A
- 5.550 to answer the card with U.S. citizen in Box A
- 1.500 to answer the card with temporary workers, refugees or asylees in Box A

the 95% confidence interval for an estimate of 22% illegal would be 20 to 24 percent.

Example 3: in a sample of 5.000, (the approximate number of Mexican-born person age 15+ in the Current Population Survey 2000), assuming, 36% are illegal, 1.000 samples of 5.000 each. For each of the 1.000 samples the 5.000 were allocated to answer legal status cards as follows: 2.900 for card 1; 1.800 card 2; 300 card 3. The 95% confidence interval was 33 to 40% (36± 3%).

Analysis

Although illegal immigration does not mean forced labour, the combination of the two methodologies described above can be applied directly to the estimation of FL. FL is illegal but for the victim it is mostly a shameful status and its quantification, in most of the cases, requires either its discovery by the police or a survey were such status is revealed.

14 Indonesia Domestic Children by Anti Slavery Int. J. Blagbrough

There was no previous study on child domestic workers. The study consisted of five different steps.

1 - **Preliminary interviews** with six of them were undertaken. This was to identify the characteristics of the employing families, which all had children or elderly members to look upon. This pilot testing was useful to determine the proper arrangement of the questions and the average duration of each (face-to-face) interview;

2 - A **telephone survey** was conducted where short open-end questions aimed to elicit information on the presence of domestic workers, their age and the socio economic characteristics of the employer. In practice, the respondent was asked whether they have, or ever had, child domestic workers with them. If the answer was affirmative, it was then asked :

- How old is the child?
- How long have the child been working with them?
- Where do the child come from?
- How did he come to the house?
- What is the socio-economic status of the employers? (occupation of male and female employers and the date of birth of the head of the household)

3 – Extrapolation of sample results was undertaken by consulting the National Labour Survey to make an estimate;

4 – Interviews with formal and informal child brokers (?) to get a rough estimate of the child domestic workers they delivered to the employers;

5 – Face-to-face interviews with the children at their home village, aimed at knowing:

- the socio-economic background,
- the reasons for working with the family,
- the workload,
- welfare,
- relationship with employers,
- leisure,
- wages,
- plans for the future.

The telephone survey

The 1995 telephone directory of Jakarta telephone was used to draw randomly 187 households; the detailed sampling is presented below.

Table 1 - Telephone sampling

Initials	Population	Sample	Eligible hous.
A	47489	43	40

B	28717	26	6
C	9429	8	4
D	24141	22	15
E	18306	16	12
F	9328	8	5
G	10896	10	3
H	38317	34	22
I	19416	17	13
J	16260	15	13
K	19260	17	17
L	27884	25	10
M	39481	36	14
N	17352	16	9
O	4605	4	1
P&Q	22432	20	14
R	25735	23	15
S	100031	90	15
T	37981	34	30
U	4859	4	-
V	1810	2	2
W	14122	13	10
X&Y	14073	14	14
Z	4114	4	3
Tot	556038	501	287

Face-to-face interviews

- Selection of some of the employers for in-depth interviews was conducted through personal references, the background of participants, however, varied socio-economically.
- Of the 12 employers selected, 9 accepted to be interviewed.
- All 12 child domestic workers accepted.
- 3 (out of 6 contacted) certified and 2 informal brokers participated in the study, whose information was used to cross validate the telephone survey and the BPS secondary data.

Data extrapolation

Descriptive statistics (*i.e.* frequencies and percentages) were used to estimate the population of child domestic workers in Jakarta;
Out of the 287 household interviewed, 151 (52.6%) were employing domestic workers, 44 of these households (15.3%) were employing child domestic workers;

These results are confirmed by the fact that certified and informal brokers indicated that **one third** of the domestic workers they provided to their customers were young girls from the villages (44/151=29%).

Applying these proportions to the Jakarta population we obtain :

- 1.417.034 domestic workers in the Great Jakarta area (52.6% of 2.693.980 households)
- 412.357 child domestic workers in the Great Jakarta area (29.1% of 1.417.034 domestic workers)

Qualitative techniques (*i.e.* a life history approach) and descriptive statistics were used to obtain the profile of child domestic workers.

Limitations

- Lack of secondary data to cover children below 10 years old;
- 556.038 telephone licences issued in 1994 mean approximately 25% of the total households, meaning that the survey may be biased toward the socio-economic upper segment of the population..
- ……and since one reason to employ children at home is their low wage, there is a good chance that child employment in the socio-economically lower households is as pervasive;
- There has been uncertainty on the economic sector within which the issue of CDW should be framed: some help the family produce marketable goods (more than domestic *per se*) or help in the family shop; after hesitation it was decided to include them as long as they identified themselves as domestic workers;
- Sample selection of households : the percentage of telephone licences may be small compared to the number of household in Jakarta : to do a random probability sampling we have to identify eligible households and select alternatives for telephone numbers belonging to business offices. The rules for this selection should be consistently followed. For this purpose, telephone numbers were selected according to the initials of the owners and the district where those households are situated. This was a tedious job: it took a lot of time to come up with a sizeable number of eligible households representing the <u>initials and the district</u>;
- Once the number answered, either the owner or their children or their *pembant* (servants) may be at the end of the line and in any case there could be outright rejection or diffidence to answer to questions;
- In face-to-face interviews, DCW were often hindered to give their answers freely because of the presence of the employer.

15.2 - United Kingdom – Prison Labour, University of Melbourne, Colin Fenwick and Howard League magazine, Special Report on Prison Privatization

United Kingdom's Prison Legal Frame

- Work is compulsory in UK prisons and prisoners work both within their prison, be it publicly or privately managed, and outside prison walls. It is estimated that in June 1998 18.000 of the 53.000 sentenced prisoners were engaged in some kind of work.[14]
- Part of the work is performed for the prison itself, while some goods and services are for the open market.
- Prisoners are not entitled for minimum wages and must work for a maximum of 10 hours[15];
- The *National Minimum Wage Act 1998* specifically excludes prisoners: a prisoner "does not qualify for the national minimum wage in respect of any work he does in pursuance of prison rules".

Data

At 31 March 2000 there were

- 65.256 prisoners in England and Scotland combined;
- 137 prisons in England and Wales, of which,
- 9 are managed on contract by private sector companies, as is one in Scotland;
- 7.661 prisoners were held in private facilities at 31 December 2000.

According to the Howard League in England and Wales the prisoners employed in industries have fluctuated during the past decade. The inmates are engaged in light assembly, tailoring and textiles, woodwork, laundry, engineering, prison farm and gardens[16]. Details are presented below.

Prisoners	Years
7286	1990-1991
9699	1998-1999
8571	1999-2000

The Vagg and Smartt study revealed that:

- 8.200 prisoners produced goods and services for UK£ 56 million in 1994-1995;
- 8% of prison work was for outside companies in 1993-1994;

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[14] Jon Vagg and Ursula Smartt, "England and Wales" in Drik van Zyl and Frieder Dünkel eds. *Prison Labour: Salvation or Slavery?* 1999.
[15] Prison Act, 1952.
[16] Howard League, *Rehabilitating Work: What are Prison Workshops For?* (2000).

- 74% of the 13.828 workshop places available were filled according to the Prison Service in 1996-1997.

15.1 USA Private Prison Labour

The private prison industry has grown since the mid 1980s from a few management contracts in the sunbelt states of the USA to a multi-million dollar operation spanning several continents, with the world's criminal justice systems targeted as legitimate "markets"[17].

- With around **three percent** of its adult prisoners in private prisons, the **US** is only outstripped by **Australia** with around nine percent;
- The UK has the most privatized criminal justice system in Europe;
- With its **3.024 beds South Africa** has the **two largest private prisons**;
- France's semi-private prisons, where the private sector finances, builds, maintains and operates all non custodial services under contract, while the state employs the prison officers, are growing.

The US private prison capacity is :

Company	Beds	Share (%)
Correction Corporation of America	58.732	49.4
Wackenhut Corrections Corporation	25.021	21
Management & Training Corporation	10.927	9.2
Correctional Services Corporation	7.474	6.3
Others	16.900	14.1
Total	119.054	100

United States private prison system in 2003

The details of private prison population in the United States are presented below :

	Number of beds		% of all inmates
Region	June 02	June 03	June 03
U.S. total	**86.626**	**91.953**	**6.1**
Federal	**20.293**	**19.251**	**12.6**
State	**66.333**	**72.702**	**5.2**
Alabama	0	0	0
Alaska	1231	1537	29.3
Arizona	1664	1429	5.7

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[17] Stephn Nathan, *Agressively seeking further opportunities*, the Howard League Magazine, May 2002

Arkansas	0	0	0
California	3349	4452	2.1
Colorado	2406	2390	13.1
Connecticut	0	0	0
Delaware	0	0	0
Florida	4083	3995	5.6
Georgia	4581	4582	9.9
Hawaii	1232	1251	22.2
Idaho	1247	1345	21.5
llinois	0	0	0
Indiana	948	915	4.4
Iowa	0	0	0
Kansas	0	98	0
Kentucky	1639	1028	10.1
Louisiana	3008	2928	8.3
Maine	0	11	0
Maryland	130	128	0.5
Massachusetts	0	0	0
Michigan	450	449	0.9
Minnesota	0	0	0
Mississippi	3629	3634	16.5
Missouri	0	0	0
Montana	1074	1087	30.6
Nebraska	0	0	0
Nevada	521	478	5
New Hampshire	0	0	0
New Jersey	2437	2620	8.7
New Mexico	2550	2484	43.4
New York	0	0	0
North Carolina	183	191	0.6
North Dakota	40	44	3.4
Ohio	1936	1924	4.3
Oklahoma	6773	6658	28.9
Oregon	0	0	0
Pennsylvania	521	500	1.3

Rhode Island	0	0	0
South Carolina	14	6	0.1
South Dakota	37	35	1.3
Tenessee	3708	3678	15.3
Texas	10764	16331	6.8
Utah	0	0	0
Vermont	0	0	0
Virginia	1576	1566	4.8
Washington	0	0	0
West Virginia	0	0	0
Wisconsin	3291	3455	15
Wyoming	482	466	27.8

Prisoners held in private facilities 2002, Dep. Of Justice [18]

Statistics

- The official figures for the Department of justice state that in 2002, **4.3% of the inmates** were in private prison: 86.626 of 2.019.234 in total.
- Official research of the International Confedereation of Free Trade Union (ICFTU) found that in the United States in 2000 **27.000 prisoners** working for private companies, were paid between 0.23 and 1.15 $/hour.
- It represent **35 percent** of the 76.010 inmates held in private facilities in 2000 (total was 1.931.858). An additional factor to confirm the FL status is the coercion employed : in some states, prisoners who refuse such work lose their chance for early release, are deprived of privileges or sent to higher-security institutions and may be locked in their cells 23 hours a day. wages were and for who threat of losing priviledges[19].

Analysis

The issue of forced labour in prison is not easy to evaluate and the specific FL cases found arise from direct evaluation of prison work conditions.

The topic of forced prison labour appears as a delicate one: on one hand a person deprived of freedom should occupy himself during the day to avoid boredom, on the other the government

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[18] Document is found at: http://www.ojp.usdoj.gov/bjs/pub/pdf/pjim02.pdf
[19] ICFTU, Internationally-recognised Core Labour Standards in the United States FINAL REPORT FOR THE WTO GENERAL COUNCIL REVIEW OF THE TRADE POLICIES OF THE UNITED STATES, Geneva, 14 and 17 September 2001.

should encourage inmates training in view of their social reinsertion once outside. But what work? And what salary?

Having in mind the I.L.O. definition, implying notably that the compulsory work is written in the sentence, we may remind that *education* contributes to the inmate future resettlement as much – if not more – than (skilled) labour. This is a standard, maybe academic, way of thinking of prison: detainees have a trade off between work and study and *otium*. The recent privatisation trend has introduced a new principle in the correctional system: prisons can be profitable.

Though acceptable at a first sight, the concept of prisons' short-term economic viability is a slippery one. Field surveys often conclude that prison production of private goods means tedious jobs, resulting in employers' shortcut to cheap workforce and low training. Why? A few reasons:

- All the capital equipment has to undergo the physical constraints of a prison *milieu*;
- Quantitative aspects of work are relevant for the implementation: man-month, hourly wage, training time, fiscal benefits;
- Any fully speculative activity (studying, art, reading) is *de facto* excluded.

Advice on methodology

The studies found have always three steps:

1. The legislative frame of the country, to describe its prison work conception and prison industry ownership (state, private);
2. Official data on prison workers in public/private facilities, private companies, budgets, etc.
3. Case studies on site, where actual working conditions, wages, social contributions and freedom to choose are ascertained.

This seems the best way to estimate forced prison labour.

16 Haiti Child domestic workers by FAFO, 2001

The study responds to the need for a more up-to-date, accurate and representative data on the situation of children in domesticity and the extent of child domesticity in the Haitian context.

"Child domestic labour" and "Child domestic worker" are contested concepts, definitions depending on the user's position and purpose, […] in many cases, discourses on children work and labour reflect a clash between cultural-relativist approaches, insisting that children's activities must be understood within their proper social, economic and cultural context, on the one hand, and universalistic approaches on the other, seeking to establish universal "standards" for what should be regarded as "unwanted" labour among children.

With an eye to the ILO convention 138, which assert that "work performed by the children should not interfere with the child's education, or be harmful, or threaten to harm hit physical, mental moral or social development", the present study focused on both the *consequences* of child work and the absolute age of the children involved.

In the study the blurreed lines between fosterage arrangements and child labour, and the local distinction of different arrangements of child relocation are discussed in detail. Qualitative factors are taken into account to define child domestic labour, focus being on children belonging to three *ensembles* :

1. Child living away from parents;
2. Lack of education;
3. Child working as domestic.

Data

The study combines two sources:

*   Quantitative data from the *Haiti Living Conditions Survey* (HLCS) led by the Institut Haïtien de Statistiques from March to July 2001;
*   *Extensive empirical field work* in urban, semi-urban and rural areas in March, April and July 2001.

The HLCS is a multi topic household survey consisting og three main questionnaires:

1. A household questionnaire;
2. A woman/caretaker questionnaire;
3. A questionnaire adressed to a person 15 and above chosen at random.

The HLCS sample is a stratified cluster sample and has a varying number of stages depending on the ultimate unit of selection (household or randomly chosen person) and also the location. The HLCS master sample is an update of the enumeration areas of the 1982 population Census of Haiti (until a new sampling frame can be derived from the new Census). Current frame consists of selected areas that serve as cluster, and selection of househlds takes placewithin these areas. The frame allows for use of a subset of clusters or all clusters. All clusters were used for the HLCS.

*   The sample was stratified by domain and urban/rural status;
*   Domains were either the area around Port-au-Prince or Departments (regions);
*   Each domain received a sample allocation proportional to the square root of the number of individuals in the domain; the sample is thus not self-weighting;

- Each stratum within a domain received a sample allocation proportional to the number of households in the stratum;
- The measure of size for stratum allocation and primary sampling unit selection is the 1982 Census counts as updated by IHSI to reflect the situation in 1996/1998;
- Within each stratum area units were selected with probabilities proportional to size (PPS); the selection was in one or two stages;
- Some area units are segmented into several segments and one of these was selected by PPS;
- A sketch map was made for each selected area unit and all dwelling units within were listed;
- From the list of the households, the selection was made by linear systematic sampling;
- An individual aged 15 or above was selected randomly for being the respondent of the individual questionnire, at this purpose a Kish-table was used.
- 7812 dwelling units were selected for interviews;
- In 7313 households interviews were possible (the remaining 499 were vacant, under construction or inhabited by ineligibles, such diplomats, UN employees etc.);
- In 7172 households interviews were completed, refusal was 0.4% and 1.5% of the households couldn't be contacted.

Since the sample is not self-weighting, weights have to be used for the estimation; these are based on the inclusion probabilities for each household. In addition the weights are corrected for non-response using an adjustment cell method: increasing the weights to households that are similar to the non-responding ones[20].

The main problem of the sample is the sample frame and not the response rate, beacause of the population changes since 1982. Although the master sample specifies how to include new areas in the frame, which were not inhabited in 1982, and also how to include new borders between enumeration unitsin ways that should ensure a representative sampling, in practice such procedures are difficult to apply consistently.

Findings

Of the total 2.1 million Haitian children five to 17 years old, 19 percent, or 401.000 live in

households where neither mother or father are present.

Table 1 Distribution of children not living with any parent by age

Age group	Percent	Number (100's)

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[20] Lehtonen, R and E.J. Pahkinen 1995. *Practical methods for design and analysis of complex surveys*. Chcester, Wiley

3 – 5	14	20
6 - 8	15	81
9 - 11	18	89
12 - 14	24	127
15 - 17	22	86

To take into account school attendance of the child domestics it was assessed whether he was enroled in school or not, if the enrolment was at the expected age etc. Results are presented below:

Table 2 –Enrolment of children by age

	Never enrolled in school		Not currently enrolled		Lower class than age		Enrolled at correct stage		Unweighted n
Age group	%	1000's	%	1000's	%	1000's	%	1000's	
3 – 5	36	53	1	2	12	19	51	75	763
6 – 8	24	136	4	23	26	146	45	252	2733
9 – 11	15	77	4	22	36	179	44	222	2488
12 – 14	14	73	6	31	48	254	32	168	2567
15 – 17	9	35	13	50	50	189	28	106	1915
Total	18	374	6	128	37	787	39	823	10466

Since most of Haitian children work, researchers have ranked weekly workload into five approximately equal groups within age groups[21].

Table 3 – Children weekly workloadby age (hours worked)

	Approximate quintile					
Age group	1	2	3	4	5	Median
3 – 5	0	0	0	1 - 3	4 +	0
6 – 8	0	0	1 - 2	3 - 9	10 +	1
9 – 11	0	1 - 2	3 - 7	8 - 19	20 +	5
12 – 14	0	1 - 5	6 - 12	13 - 27	28 +	8
15 – 17	0	1 - 7	8 - 16	17 - 33	34 +	11

The simultaneous combination of residence, school and workload was therefore analyzed by correspondence analysis, a multivariate qualitative technique, resulting in a Cartesian graph (not shown).

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[21] The grouping is in quintiles representing 20% of the distribution, but the distribution cannot be divided exactly into such groups because of the preponderance of values as 0 and 1 hours worked.

By combining residence, school and workload, researchers found that **173.000** children, or **8.2** percent of child population aged 5-17 can be considered child domestic workers.

Present and former studies estimates are presented below :

Table – Various estimates of child domestic workers in Haiti

Source & year	Estimate (1000)	Age group	Based on
HLCS 2001 high	173	5 - 17	National Sample: residence, workload and education
HLCS 2001 low	120	5 - 17	National Sample: residence, workload and education
Emmus III 2001			
UNICEF 2001	130	0 - 15	Sample of 1117 children in 3 towns adjusted to the whole population
Dorelien 1982	110	5 - 17	Estimated from sel-reporting of household composition in 1982 Census in Haiti
Clesca 1982 - I	120	6 - 15	Not clear
Clesca 1982 - II	240	6 - 15	Doubling of Clesca 1992 – I, based on inclusion of relatives and lodgers/tenants

- Only the children having workloads belonging to the three upper groups are included;
- To make the work criteria more stringent (2 upper quintiles only) : **124.000**, or **5.9%;**
- The few below eighteens that have established their own household are excluded;
- 134.000 (7.7% of population 5 – 14 years old) CDW less than 15;
- 115.000 (7.3% of population 5 – 14 years old) CDW less than 14[22].

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[22] These last two estimates are also based on the last three quintiles.